about six feet. Frequently the excavation makes a rather abrupt bend, in the form of an elbow, but I have often found it straight to the end. I believe the termination is a little higher than the entrance. The "nest was always in a sort of oven-shaped chamber, near the end, the bottom being a little lower than the floor of the tunnel." I have never found any elaborate nest, the eggs in a majority of cases lying on the bare earth. On two occasions, however, I have found a bed of broken fragments of crawfish shells, and fish-bones; but never to my knowledge any sticks or straws, or, indeed, feathers except those from the body of the owner. I have never found the bird sitting on less than six, or more than seven eggs, and I do not believe the number ever exceeds the latter. Both sexes incubate, as I have caught both male and female upon the eggs.—ROBERT RIDGEWAY.

GEOLOGY.

KJŒKKENMŒDDINGS IN IOWA.—In November last, Mr. J. J. Kinersly of Keosauqua called my attention to some aboriginal relics he had discovered upon the bank of the Des Moines River, near that place, while the workmen were cutting the bank for a road to a newly established ferry, and digging a hole for the post which supports the ferry-rope. In digging this hole they passed about four feet through a layer of silt-like earth, crowded with the shells of Unios, before they reached the original surface. These shells are of the same species that now inhabit the stream, among which were recognized *Unio plicatus*, *U. rectus*, *U. metanevra*, *U. crassus*, etc. The locality is just above the mouth of a small creek, which has cut into the accumulation by the shifting of its channel, and leaves it without that symmetry of outline it would doubtless have possessed if it had not been disturbed. The heap is not above the reach of the highest floods of the river, and has evidently been largely composed of the silt brought down by the river and creek at the times of high-water. Mingled with and composing a large part of its bulk, are the shells which were brought from the bed of the river when the water was low—the only time they are accessible—and the mollusks were evidently cooked and eaten upon this spot during many years. The bed of the river opposite this spot is broad and gravelly, and an excellent habitat for the mollusks, while both above and below the bottom of the river is not so favorable for their growth.

No other shells besides Unios were found, although a few others may yet be discovered. Very few other kinds are to be found in the river near there. The bones of the deer are common among the shells, the marrow bones always being split open. Pieces of the carapace and other bones of the fresh-water turtle were also found. Among the implements found by the slight excavation mentioned, are one hatchet of greenish hornblendic rock, some flint arrow-heads and sharp-edged flints, probably used for skinning animals, and fragments of crude pottery. Some fragments of the latter bear evidence of having been burnt in contact with

organic matter, and were probably broken and spoiled while being used for cooking purposes. Fragments of charcoal were frequently found scattered through the mass.

The pottery is composed of common clayey earth intermixed with sand and slightly baked; some of the surfaces are rudely ornamented by cancellated scratches, and some are marked as if they had been enclosed while soft in a loose fabric or netting, probably of twisted bark fibres, the twist of the thread being easily distinguished.

The examination of this interesting accumulation has been very slight, but it is proposed to resume it next season. — C. A. WHITE.

RHEUMATISM IN PREHISTORIC TIMES. — At the last meeting of the Pathological Society of London, Mr. Bush exhibited some specimens of pathological fossils. He exhibited a bone of a fossil rhinoceros which had been afflicted with rheumatism. He also exhibited a bone of a cave-bear, with a consolidated fracture, which had been broken just before the animal had hibernated; and another bone, of the same species of bear, which had been the seat of an osseous tumor. — *Cosmos.*

Disease also appeared among the reptiles of the Cretaceous formation of New Jersey, for Prof. E. D. Cope writes us: "I have just discovered a remarkable ally of Mosasaurus, which has a permanent functional dislocation of the ramus of the mandible. It has an articulation behind the middle, which has lateral and some vertical motion."

Disease is more common among the lower animals than is usually supposed. Prof. J. Leidy has exhibited to the Philadelphia Academy of Natural Sciences, pus globules from an abscess in the muscle of an oyster. — EDITORS.

FOSSIL PLANTS FROM GREENLAND. — Mr. Whymper has brought from the tertiary formation in Greenland, 137 species, of which forty-six are common to the European deposits of the Miocene Tertiary. Among the specimens are the cones of the magnolia, and the flowers and fruit of the chestnut. — *Cosmos.*

THE EARLIEST PLANT. — The discovery of Eozoön in the Laurentian rocks of Canada was of great interest. One of the most important discoveries recently made in palæontological science is analogous with it. It is the detection of what appears to be the remains of a terrestrial flora in certain Swedish rocks of Lower Cambrian age, — the supposed equivalents of our Longmynd rocks. A peculiar interest attaches to this discovery, inasmuch as it carries back the appearance of terrestrial vegetation upon the earth's surface through a vast interval of time, no land-plants having previously been known older than the Upper Ludlow beds. The Swedish fossils now discovered appear to be the stems and long parallel-veined leaves of monocotyledonous plants, somewhat allied to the grasses and rushes of the present day. These plants apparently grew on the margin of shallow waters, and were buried in sand and silt, although it is probable that several species, and even genera, may occur in the sandstone blocks which have been examined. They are provisionally in-

cluded in a single species, to which the name of *Eophyton Linnæanum* has been given. Eophyton, therefore, stands by the side of Eozoön,—the one being, in the present state of our knowledge, the earliest land-plant, as the other is the earliest animal organism.—*Quarterly Journal of Science.*

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

HISTORICAL SOCIETY OF PASSAIC, N. J.—This active society was organized March 28th, 1867, and held its first field meeting July 15th, 1868, when glacial marks were discovered upon the rocks near Little Falls, running in a south-easterly direction.

ANSWERS TO CORRESPONDENTS.

J. H. B., Camp Grant, near Richmond, Va.—The smaller of your plants is *Selaginella apus.* The larger is *Hypnum tamariscinum.* Both are found widely distributed through the United States.—J. L. R.

C. G. A., Augusta, Me.—Your insect boxes should be made as near air-tight as possible to be insect proof. The cover should shut down upon an inner shoulder, so that an invading insect will have to make four turns in order to get fairly inside the box. The inside should be daubed with creosote; or camphor, wrapped in paper with pin holes, should be pinned to the bottom of the box.

S. P. M., Cold Springs, N. Y.—Agassiz's "Methods of Study" is a good introductory Book for beginners in Zoölogy, and may be read with Tenney's "Zoölogy for Schools," Clark's "Mind in Nature," and Agassiz and Gould's "Principles of Zoölogy."

W. H. E., Coalburgh, W. Va.—The worm enclosed, which is two feet long, and the largest one we ever saw, is a gigantic Hair-worm (*Gordius*). Compare the account of the Gordius-like worm on p. 41. Also see Vol. I, p. 556.

D. M., Hamilton, Ohio.—The specimens are the "Basket-worm, or larva of the *Thyridopteryx ephemeræformis*, and will probably disclose the moth next spring. It feeds on different species of evergreens, and also on other plants, including the cotton.

F. P., Indianapolis, Ind.—The fern is *Aspidium achrostichoides* (a barren frond). It is common on shaded hillsides in the Northern States. We shall be pleased to get *good* specimens of the aquatic plants which we will have named for you. Send the set under numbers corresponding to those on the specimens you keep.

O. C. M., New Haven, and others.—Your papers for the Proceedings of the Chicago Meeting of the American Association for the Advancement of Science, should be sent to F. W. Putnam, Salem, Mass., quite soon, to be in time for printing.—F. W. P.

BOOKS RECEIVED.

On the British Species of Alpheus, Typton, and Axius, and on Alpheus Edwardsii of Audouin. By the Rev. A. M. Norman. (From the Annals and Magazine of Natural History for September 1868.) 8vo, pp. 6.

Cecil's Books of Natural History:—Cecil's Book of Insects; Cecil's Book of Birds; Cecil's Book of Beasts. By Selim H. Peabody. Chicago: Clark & Co. 1868. 12mo.

Report upon Wool and Manufactures of Wool. (Paris Universal Exposition, 1867. Reports of the U. S. Commissioners.) By E. R. Mudge, assisted by John L. Hayes. Published by the National Association of Wool Manufacturers. Washington, 1868. 8vo.

Naturalist's Note Book. January. London.

Catalogue of the Orthoptera of North America described previous to 1867. Prepared for the Smithsonian Institution by S. H. Scudder. Washington, 1868. 8vo, pp. 89.

Scientific Opinion (Weekly). November, December, 1868. London.

The American Agricultural Annual. New York: Orange Judd & Co. 12mo. 1869. 50 cents.

The American Horticultural Annual. New York: Orange Judd & Co. 12mo. 1869. 50 cents.

The Canadian Entomologist. January, 1869. Toronto. 50 cents (gold) a year.

On the Dynamics, Principles and Philosophy of Organic Life; An Effort to obtain definite conceptions of How do Medicines produce their Effects? By Z. C. McElroy, M. D. St. Louis, 1869. 8vo, pp. 40.